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- 447 Duleea.
- 448 Teylo.
- 449 Dengra.
- 450 Seendrine.
- 451 Bora.
- 452 Nagee-sar.

No. III.

IN the Appendix to the first part of this volume, p. 226, is a letter addressed to R. H. Solly, Esq. by N. B. Ward, Esq. respecting his method of growing ferns and other plants, which thrive best in a humid atmosphere, by planting them in a box filled with moist earth, and covered with a glazed frame, rendered as nearly air-tight as possible. In this situation they will flourish, even in the smoky atmosphere of London, the junctures of the box being close enough to exclude the particles of soot, smoke, and dust, which are constantly floating in the air of the metropolis, and to which Mr. Ward, with great probability, attributes the sickly condition of all plants that are exposed to its action.

The same kind of boxes have been applied by their inventor to a much more important service, namely, that of conveying living plants, by long sea voyages, from one country and climate to another, with singular success, and without the necessity of those minute precautions of regulating the admission of air and light, and of duly supplying them with water, which are absolutely necessary if the usual mode is had recourse to.

Mr. Ward's letter, subjoined, together with the letters addressed to that gentleman by Captain Mallard, from

Hobart Town and from Sydney, and by Mr. Trailli from Cairo, shew the success which has attended this novel and very important discovery.

SIR,

Wellclose Square, December 29, 1835.

I have sent you copies of the original letters, with which you may do what you like. With respect to the New Holland cases, they were received on board Captain Mallard's ship in the first week in June 1833, and arrived at their destination, as you will perceive by Captain M.'s letters, in the following January. So much for the outward-bound voyage. I have, however, two observations to make on Captain Mallard's letters: the one relates to the sprinkling of the plants near the equator, which was certainly superfluous; and the other regards the apparent death of two or three of the ferns: now, these were ferns with annual fronds, which fronds, having run their race, withered, their roots remaining alive in the mould.

The homeward-bound voyage was even more interesting. The cases were refilled at Sydney in February 1834, chiefly with ferns (one or two of which had not previously been introduced into this country), and two or three flowering plants. The thermometer then being between 90° and 100°. In rounding Cape Horn, about two or three months after, the thermometer was observed as low as 20° at 8 P.M., and the decks were a foot deep in snow. A fortnight after this they were in the harbour of Rio Janeiro. In crossing the line, the thermometer rose to 120°; and upon the arrival of the ship in the British Channel, in the beginning of November, the thermometer was as low as 40°.

These cases occupied the same station as on the outward-bound voyage. The plants were not once watered, and received no protection, either by day or night; and yet arrived here in the most flourishing state, after their eight months' confinement.

As the above experiments were made chiefly with ferns, I think it will be interesting to you to mention one other, in which plants of a higher order of developement were the subject of trial. Ibrahim Pacha, being anxious to obtain useful and ornamental tropical plants for his garden near Cairo, commissioned his agents in this country to send out what could be procured from our nurseries; which commission was given to me to execute. These plants were shipped on board the Nile steamer in August 1834, and were about two months on their passage.

I have inclosed you the letter from his gardener (which I shall feel much obliged by your taking care of), which will give you an account of the state in which they arrived, and where you will find a list of the plants sent. Various other equally successful trials have been made to Para, Calcutta, and other places.

I am, Sir, &c. &c.

A. AIKIN, Esq.

N. B. WARD.

Secretary, &c. &c.

SIR,

Hobart Town, Nov. 23, 1833.

You will, I am sure, be much pleased to hear, that your experiment for the preservation of plants alive, without the necessity of water, or open exposure to the air, has *fully succeeded*.

The two boxes entrusted to my care, containing ferns, mosses, grasses, &c. are now on the poop of the ship

(where they have been all the voyage), and the plants (with the exception of two or three ferns, which appear to have faded) are all *alive* and *vigorous*.

During the very hot weather near the equator, I gave them once a light sprinkling of water; and that is all they have received during the passage.

All the plants have grown a great deal, particularly the grasses, which have been attempting to push the top of the box off. I shall carry them forward to Sydney, according to your instructions, and have no doubt of delivering them into the hands of Mr. Cunningham in the same flourishing state in which they are at present.

Allow me, in conclusion, to offer you my warm congratulations upon the success of this simple but beautiful discovery for the preservation of plants in the living state upon the longest voyages; and I feel not a little pride in having been the instrument by which the truth of your new principle has been fully proved by experiment.

I am, Sir, &c. &c.

CHARLES MALLARD,

Barque Persian, at Sydney,

SIR,

Jan. 18th, 1834.

I have the happiness to inform you that the plants (ferns, mosses, &c.) contained in the two glazed cases entrusted to my care, were landed here at the Botanical Garden about three weeks ago, nearly the whole of them alive and flourishing. They have since been transplanted by Mr. M'Lean, who has charge of the garden in the absence of Mr. Cunningham (gone to New Zealand botanizing), and are all doing well.

The complete success of your interesting experiment has been decidedly proved; and whilst offering you my

congratulations upon this agreeable result, I cannot but feel some little degree of pride and pleasure in having been the instrument selected to put to the proof so important a discovery to the botanical world.

I am, Sir, &c. &c.

CHARLES MALLARD.

P. S. I ought to have mentioned that, during the voyage, the plants were watered but once, and that but a light sprinkling near the Equator, and were on deck (on the poop) the whole passage.

SIR,

Cairo, April 30th, 1835.

I beg to acknowledge the receipt of your letter of 2d ultimo, wherein you request information as to the state of the plants sent out by you in the Nile steamer. The collection consisted, I believe, of 173 species, contained in six glazed cases, two of which only were forwarded to me from Alexandria. The one which you mention as having been fitted up with talc, together with three others, were sent on to Syria immediately on their arrival in Alexandria, so that I had no opportunity of seeing them.

I have, however, the pleasure to inform you, that the Egyptian portion of the collection was received here in the very best condition: the plants, when removed from the cases, did not appear to have suffered in the slightest degree; they were in a perfectly fresh and vigorous state, and, in fact, hardly a leaf had been lost during their passage. Your plan I think decidedly a good one, and ought to be made generally known.

I am, Sir, &c. &c.

J. TRAILL.

List of Plants contained in the two Cases sent to Egypt.

Anona cherimoyer.	Combretum comosum.
Laurus cassia.	Bombax gossypium.
Laurus cinnamomum.	Cedrela odorata.
Myrtus Pimenta.	Mimusops elengi.
Zingiber officinalis.	Uvaria odoratissima.
Cycas revoluta.	Dalbergia scandens.
Latania borbonica.	Dimocarpus Litchi.
Gomutus saccharifera.	Achras Sapota.
Caryota urens.	Jatropha panduræfolia.
Oreodoxa regia.	Melastoma Fothergilli.
Ficus elastica.	Menispermum cocculus.
Pandanus odorata.	Morus tinctoria.
Curcuma longa.	Flacourtie cataphracta.
Doryanthes excelsa.	Piper nigrum.
Passiflora racemosa.	Piper Betle.
Psidium chinense.	Diospyros edulis.
Alpinia nutans.	Diospyros embryopteris.
Vanilla planifolia.	Aleurites triloba.
Terminalia angustifolia.	Ixora coccinea.
Maranta arundinacea.	Bignonia venusta.
Maranta zebrina.	Franciscea uniflora.
Maranta bicolor.	Erythrina crista-galli.
Dracæna edulis.	Brexia spinosa.
Dracæna terminalis.	Croton variegatum.
Diospyros cordifolia.	Jonesia pinnata.
Melaleuca cajeputi.	